



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,820	10/03/2003	Akio Yamamoto	IIW-031	3272
959	7590	10/26/2006		
LAHIVE & COCKFIELD, LLP ONE POST OFFICE SQUARE BOSTON, MA 02109-2127			EXAMINER CREPEAU, JONATHAN	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 10/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/678,820	Applicant(s) YAMAMOTO ET AL.	
	Examiner Jonathan S. Crepeau	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 1-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-22 is/are rejected.
- 7) ☒ Claim(s) 23 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) ☐ Notice of Informal Patent Application |
| 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10-3-03</u> . | 6) ☐ Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group II, claims 15-24 in the reply filed on October 10, 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 15, 21, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamamoto et al (U.S. Patent 6,916,563) and Ueda et al (U.S. Pre-Grant Publication No. 2004/0013919). Both of the references are directed to a diluting device for a fuel cell apparatus. The device comprises a reservoir that functions by using fuel cell cathode air ("ventilating fluid") to draw the hydrogen through the reservoir. Regarding the limitation in claim 15 reciting the

step of “stopping generation of electric power in the fuel cell,” claim 15 does not specifically recite when this step occurs and since the fuel cells of the references will be shut down in the normal operation thereof, the claimed method step is anticipated by the references.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

4. Claims 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Pratt et al (U.S. Patent 6,426,158). The reference is directed to a diluting device (16) for a fuel cell apparatus. The device comprises a reservoir through which exhaust hydrogen is diluted. Regarding the limitation in claim 15 reciting the step of “stopping generation of electric power in the fuel cell,” claim 15 does not specifically recite when this step occurs and since the fuel cell of the reference will be shut down in the normal operation thereof, the claimed method step is anticipated by the reference. Further, regarding claim 16, the reservoir contains air during operation (col. 3, line 60) and thus the claimed step of “supplying air to the reservoir after stopping generation of electric power” is also anticipated by the reference.

5. Claims 15, 21, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2000-357530. The reference is directed to a fuel cell apparatus comprising a diluting device (40) (see Fig. 1). The device comprises a reservoir through which exhaust hydrogen is diluted by exhaust air (“ventilating fluid”) from the cathode (see [0029]). The cathode air is supplied by a fan (blower) (41) (see [0028]). Regarding the limitation in claim 15 reciting the step of “stopping generation of electric power in the fuel cell,” claim 15 does not specifically recite when this step occurs and since the fuel cell of the reference will be shut down in the normal operation thereof, the claimed method step is anticipated by the reference.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-357530.

The reference is applied to claims 15, 21, and 22 for the reasons stated above. However, the reference does not expressly teach that air is supplied to the reservoir after stopping generation of electric power, as recited in claim 16.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to perform this step while operating the apparatus of JP '530. Such a step would allow the apparatus, upon shutdown, to be in a state where residual hydrogen is not present in the exhaust pipes and reservoir, thereby increasing the safety of the apparatus. As such, the subject matter of claim 16 would be rendered obvious. Regarding claims 19 and 20, it would be obvious to operate the air blower to remove hydrogen from the system until the hydrogen concentration is below a predetermined value. It is known that hydrogen is ignitable in air at a concentration of approximately 4 vol%. As such, it would be obvious to purge the hydrogen from the reservoir until this condition is met.

Allowable Subject Matter

8. Claims 23 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

Claim 23 recites the step of opening a relief valve between the reservoir and a ventilator pipe to supply hydrogen gas from the reservoir to the pipe. None of the above-applied references teaches or fairly suggests this subject matter.

Art Unit: 1745

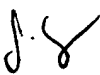
Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299.

The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (571) 272-1292. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jonathan Crepeau
Primary Examiner
Art Unit 1745
October 23, 2006